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10/749,069		12/29/2003	Stavros Photios Basseas	8362/85877 (Parent) (BEL- 7945	
24628	7590	03/06/2006		EXAMINER	
WELSH &	KATZ,	LTD	ENSEY, BRIAN		
120 S RIVE 22ND FLO		LAZA	ART UNIT	PAPER NUMBER	
CHICAGO,	CHICAGO, IL 60606			2646	
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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)				
Office Action Summary	10/749,069	BASSEAS, STAVROS PHOTIOS				
omee Action Gummary	Examiner	Art Unit				
The MAN INC DATE of this communication on a	Brian Ensey	2646				
The MAILING DATE of this communication app Period for Reply	ears on the cover sneet with the c	orrespondence address				
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DA  - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period w  - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be tim rill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	l. ely filed the mailing date of this communication. D (35 U.S.C. § 133).				
Status						
1)	action is non-final. nce except for formal matters, pro					
Disposition of Claims						
4) ☐ Claim(s) 19-38 is/are pending in the application 4a) Of the above claim(s) is/are withdray 5) ☐ Claim(s) is/are allowed. 6) ☐ Claim(s) 19-38 is/are rejected. 7) ☐ Claim(s) is/are objected to. 8) ☐ Claim(s) are subject to restriction and/or Application Papers  9) ☐ The specification is objected to by the Examine 10) ☐ The drawing(s) filed on is/are: a) ☐ acceeding to the drawing sheet(s) including the correction and specification to the drawing sheet(s) including the correction and specification to the drawing sheet(s) including the correction and specification to the drawing sheet(s) including the correction and specification to the drawing sheet(s) including the correction and specification to the drawing sheet(s) including the correction and specification and	vn from consideration.  r election requirement.  r.  epted or b) □ objected to by the l drawing(s) be held in abeyance. Sec	e 37 CFR 1.85(a).				
11)☐ The oath or declaration is objected to by the Ex	aminer. Note the attached Office	Action or form PTO-152.				
Priority under 35 U.S.C. § 119						
<ul> <li>12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).</li> <li>a) All b) Some * c) None of:</li> <li>1. Certified copies of the priority documents have been received.</li> <li>2. Certified copies of the priority documents have been received in Application No</li> <li>3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).</li> <li>* See the attached detailed Office action for a list of the certified copies not received.</li> </ul>						
Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date	4) Interview Summary Paper No(s)/Mail Di 5) Notice of Informal F 6) Other:					

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#### **DETAILED ACTION**

#### Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 19, 30, 34 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba et al. U.S. Patent No. 4,759,070 in view of Weinfurtner et al. U.S. Patent No. 6,035,050.

Regarding claim 19, Voroba discloses a fitting system for programming a separate hearing aid comprising: software, executable by the processor for presenting pre-stored audio stimuli to the hearing aid (a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See col. 3, lines 13-25) and circuitry for receipt of real-time feedback from a user of the hearing aid, the feedback being related to the presented pre-stored audio stimuli (a microprocessor based test console operated by the user to provide real time response to the stimuli provided to determine the operational characteristics that best suits the user for each condition provided. See col. 3, lines 26-37); second software executable by the processor responsive to the user feedback to modify the parameters of the hearing aid in accordance with that feedback (parameters selected by the user are stored during testing as the process is executed to allow the determined parameters to be used for the selection of the final hearing aid setup. See col. 3, line38 to col. 4, line 13). Voroba does not expressly disclose a programmable processor coupled to circuitry or software for transferring parameters from the processor to a programmable hearing aid to specify the performance thereof. However, programmable hearing aids are well known in the art and

Weinfurtner teaches a programmable hearing aid (10) coupled to circuitry (20) for transferring performance parameters determined during testing by the user to the programmable processor of the hearing aid thereby altering the performance thereof (See Figs. 1-3 and col. 2, line 48 to col. 3, line 35 and col. 4, lines 42-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the programmable processor of Weinfurtner in the hearing device of Voroba such that "the patient may leave the premises with the same hearing aid that the patient has chosen during the testing process" (See Voroba col. 4, lines 11-13) and with the same assembled device without awaiting assembly of individual components thereby saving time and assembly costs.

Regarding claim 30, Voroba discloses a fitting system for establishing a set of performance defining parameters for a separate hearing aid comprising: circuitry for presenting pre-stored audio stimuli to the hearing aid for user evaluation of the performance of the hearing aid using the programmed parameters(a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See col. 3, lines 13-25) and circuitry for receiving feedback from a user of the hearing aid, the feedback being related to the presented pre-stored audio stimuli (a microprocessor based test console operated by the user to provide real time response to the stimuli provided to determine the operational characteristics that best suits the user for each condition provided. See col. 3, lines 26-37) and modifying the parameters of the hearing aid in accordance with that feedback with a current updated set of parameters (parameters selected by the user are stored during testing as the process is executed to allow the determined parameters to be used for the selection of the final hearing aid setup. See col. 3, line38 to col. 4, line 13). Voroba does not expressly

disclose a programmable processor or circuitry for downloading parameters to and programming the hearing aid. However, programmable hearing aids are well known in the art and Weinfurtner teaches a programmable hearing aid (10) coupled to circuitry (20) for transferring performance parameters determined during testing by the user to the programmable processor of the hearing aid thereby altering the performance thereof (See Figs. 1-3 and col. 2, line 48 to col. 3, line 35 and col. 4, lines 42-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the programmable processor of Weinfurtner in the hearing device of Voroba such that "the patient may leave the premises with the same hearing aid that the patient has chosen during the testing process" (See Voroba col. 4, lines 11-13) and with the same assembled device without awaiting assembly of individual components thereby saving time and assembly costs.

Regarding claim 31, the combination of Voroba in view of Weinfurtner further discloses circuitry for retrieving the pre-stored sound stimuli to be presented to the user (A microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See col. 3, lines 13-25).

Regarding claim 34, Voroba discloses a fitting system for programming a separate hearing aid comprising: software for presenting pre-stored audio stimuli to the hearing aid (a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See col. 3, lines 13-25) and circuitry for receipt of real-time feedback from a user of the hearing aid, the feedback being related to the presented pre-stored audio stimuli (a microprocessor based test console operated by the user to provide real time response to the stimuli provided to determine the operational characteristics

that best suits the user for each condition provided. See col. 3, lines 26-37); circuitry responsive to the user feedback to modify a current set of parameters of the hearing aid (parameters selected by the user are stored during testing as the process is executed to allow the determined parameters to be used for the selection of the final hearing aid setup. See col. 3, line 38 to col. 4, line 13). Voroba does not expressly disclose software for downloading modified parameters to the hearing aid thereby altering the characteristics thereof. However, programmable hearing aids are well known in the art and Weinfurtner teaches a programmable hearing aid (10) coupled to circuitry (20) for downloading modified parameters determined during testing by the user to the programmable processor of the hearing aid thereby altering the characteristics thereof (See Figs. 1-3 and col. 2, line 48 to col. 3, line 35 and col. 4, lines 42-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the programmable processor of Weinfurtner in the hearing device of Voroba such that "the patient may leave the premises with the same hearing aid that the patient has chosen during the testing process" (See Voroba col. 4, lines 11-13) and with the same assembled device without awaiting assembly of individual components thereby saving time and assembly costs.

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Regarding claim 37, Voroba discloses a method of optimizing a set of parameters for a hearing aid comprising: presenting pre-stored audio stimuli to a hearing aid with a set of parameter set; (a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See col. 3, lines 13-25); b) receiving feedback responsive to the stimuli from a user of the hearing aid; (a microprocessor based test console operated by the user to provide real time response to the stimuli provided to determine the operational characteristics that best suits the user for each condition provided. See

col. 3, lines 26-37); c) processing the user feedback and altering the existing set of parameters of the hearing aid in response thereto (parameters selected by the user are stored during testing as the process is executed to allow the determined parameters to be used for the selection of the final hearing aid setup. See col. 3, line 38 to col. 4, line 13). Voroba does not expressly disclose transferring the altered set of parameters to the hearing aid; and repeating the process. However, programmable hearing aids are well known in the art and Weinfurtner teaches a programmable hearing aid (10) coupled to circuitry (20) for downloading modified parameters determined during testing by the user to the programmable processor of the hearing aid thereby altering the characteristics thereof and repeating the process until an optimal set of parameters is obtained (See Figs. 1-3 and col. 2, line 48 to col. 3, line 35 and col. 4, lines 42-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the programmable processor of Weinfurtner in the hearing device of Voroba such that "the patient may leave the premises with the same hearing aid that the patient has chosen during the testing process" (See Voroba col. 4, lines 11-13) and with the same assembled device without awaiting assembly of individual components thereby saving time and assembly costs.

2. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba in view of Weinfurtner and further in view of Weinfurtner U.S. Patent No. 5,606,620.

Regarding claim 24, Voroba discloses a fitting system for programming a separate hearing aid comprising: circuitry couplable to a hearing aid that is programmable with parameters to specify the performance thereof (a microprocessor based test console controlling parameters presented to hearing aid worn by the user to specify the performance of the hearing aid. See col. 3, lines 38-60); software, executable by the circuitry for presenting pre-stored audio

stimuli to the hearing aid (a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See col. 3, lines 13-25) and for receipt of real-time feedback from a user of the hearing aid, the feedback being related to the presented pre-stored audio stimuli(a microprocessor based test console operated by the user to provide real time response to the stimuli provided to determine the operational characteristics that best suits the user for each condition provided. See col. 3, lines 26-37). Voroba does not expressly disclose second software executable by the circuitry for implementing fuzzy logic processing for responding to the user feedback to modify at least one parameter of the hearing aid in accordance with that feedback; and additional software for downloading the modified at least one parameter to the hearing aid thereby altering the performance thereof. However, programmable hearing aids are well known in the art and Weinfurtner teaches a programmable hearing aid (10) coupled to circuitry (20) for downloading parameters determined during testing by the user to the programmable processor of the hearing aid thereby altering the performance thereof (See Figs. 1-3 and col. 2, line 48 to col. 3, line 35 and col. 4, lines 42-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the programmable processor of Weinfurtner in the hearing device of Voroba such that "the patient may leave the premises with the same hearing aid that the patient has chosen during the testing process" (See Voroba col. 4, lines 11-13) and with the same assembled device without awaiting assembly of individual components thereby saving time and assembly costs. Further, the use of fuzzy logic in hearing aid fitting systems is well known in the art and Weinfurtner teaches a fuzzy logic adaptation device for programmable hearing aids (See Fig. 1 and col. 2, lines 17-53). Therefore, it would have been obvious to one of ordinary

skill in the art at the time of the invention to utilize the fuzzy logic adaptation device of Weinfurtner in the fitting system of the combination of Voroba in view of Weinfurtner to provide optimum adaptation of the programmable hearing aid according to the individual (See Weinfurtner '620, abstract).

Regarding claim 25, the combination of Voroba in view of Weinfurtner discloses a fitting system as claimed. The combination of Voroba in view of Weinfurtner further discloses software executable by the processor for establishing an initial set of parameters (See Weinfurtner col. 2, lines 4-37).

3. Claims 20, 22, 23, 27-29, 31-33, 35, 36 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba in view of Weinfurtner as applied to claims 19, 24, 30, 34 and 37 above, and further in view of Weinfurtner U.S. Patent No. 5,606,620.

Regarding claims 20, 32, 34 and 38, the combination of Voroba in view of Weinfurtner discloses a fitting system as claimed. The combination of Voroba in view of Weinfurtner does not expressly disclose software implements fuzzy logic processing in responding to the user feedback. However, the use of fuzzy logic in hearing aid fitting systems is well known in the art and Weinfurtner teaches a fuzzy logic adaptation device for programmable hearing aids (See Fig. 1 and col. 2, lines 17-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the fuzzy logic adaptation device of Weinfurtner in the fitting system of the combination of Voroba in view of Weinfurtner to provide optimum adaptation of the programmable hearing aid according to the individual (See Weinfurtner '620, abstract).

Regarding claims 22, 23, 27, 33 and 36, the combination of Voroba in view of Weinfurtner discloses a fitting system as claimed. The combination of Voroba in view of Weinfurtner discloses software for repetitively presenting the audio stimuli (a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user continuously during the testing process. See col. 3, lines 13-25); and in response to user feedback, repetitively modifying the parameters thereby providing an optimized set of parameters (a microprocessor based test console operated by the user to provide real time response to the stimuli provided to determine the operational characteristics that best suits the user for each condition provided until an optimized set of parameters is established. See col. 3, lines 26-37).

Regarding claims 28, 29 and 31, the combination of Voroba in view of Weinfurtner further discloses circuitry comprises a processor for executing the software (See Weinfurtner Figs. 1-3 and col. 2, line 48 to col. 3, line 35 and col. 4, lines 42-59) and circuitry for retrieving the pre-stored audio stimuli a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See Voroba col. 3, lines 13-25).

4. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba et al in view of Weinfurtner et al. in further view of Sauer U.S. Patent No. 5,636,285.

Regarding claim 21, Voroba discloses a fitting system for programming a separate hearing aid comprising: software, executable by the processor for presenting pre-stored audio stimuli to the hearing aid (a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See col. 3,

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lines 13-25) and circuitry for receipt of real-time feedback from a user of the hearing aid, the feedback being related to the presented pre-stored audio stimuli (a microprocessor based test console operated by the user to provide real time response to the stimuli provided to determine the operational characteristics that best suits the user for each condition provided. See col. 3, lines 26-37); second software executable by the processor responsive to the user feedback to modify the parameters of the hearing aid in accordance with that feedback (parameters selected by the user are stored during testing as the process is executed to allow the determined parameters to be used for the selection of the final hearing aid setup. See col. 3, line38 to col. 4, line 13). Voroba does not expressly disclose a programmable processor coupled to circuitry or software for transferring parameters from the processor to a programmable hearing aid to specify the performance thereof or third software executable by the processor for establishing an initial set of parameters by neural network processing of selected user data. However, programmable hearing aids are well known in the art and Weinfurtner teaches a programmable hearing aid (10) coupled to circuitry (20) for transferring performance parameters determined during testing by the user to the programmable processor of the hearing aid thereby altering the performance thereof (See Figs. 1-3 and col. 2, line 48 to col. 3, line 35 and col. 4, lines 42-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the programmable processor of Weinfurtner in the hearing device of Voroba such that "the patient may leave the premises with the same hearing aid that the patient has chosen during the testing process" (See Voroba col. 4, lines 11-13) and with the same assembled device without awaiting assembly of individual components thereby saving time and assembly costs. Further, the use of neural network processing is well known in the art and Sauer teaches the use of a neural network

in a hearing aid for a trainable system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a neural network in the combination of Voroba et al in view of Weinfurtner to train the system and provide a more customized fit with the user.

5. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba in view of Weinfurtner in view of Weinfurtner "620" and further in view of Sauer.

Regarding claim 26, the combination of Voroba in view of Weinfurtner in view of Weinfurtner "620" discloses a fitting system as claimed. The combination of Voroba in view of Weinfurtner in view of Weinfurtner "620" does not expressly disclose omprising a neural network processing of selected user data. However, the use of neural network processing is well known in the art and Sauer teaches the use of a neural network in a hearing aid for a trainable system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a neural network in the combination of Voroba in view of Weinfurtner in view of Weinfurtner "620" to train the system and provide a more customized fit with the user.

#### Response to Arguments

6. Applicant's arguments with respect to claims 19-28 have been considered but are moot in view of the new ground(s) of rejection.

Further, the examiner respectfully asserts that first software, second software, third software, additional software, etc., as is well known in the art does not necessarily construe that multiple independent software programs need to be provided and that only one program

comprised of individual program steps or subroutines meets the limitation of any number of "software" as claimed in the present application.

#### Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

## Any response to this action should be mailed to:

Commissioner of Patents and Trademarks P.O. Box 1450 Alexandria, Va. 22313-1450

### Or faxed to:

(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT". Hand-delivered responses should be brought to:

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BKE

February 27, 2006

SINHTRAN

SUPERVISORY PATENTEXAMINER